AKR1B1 siRNA – Aldose Reductase (Human)

PRODUCT OVERVIEW

Product Name	AKR1B1, siRNA
Full Product Name	AKR1B1 siRNA (Human)
Product Gene Name	AKR1B1 sirna
Product Synonym Names	ALDR1; Aldose reductase; AR; Aldehyde reductase; Aldo-keto reductase family 1 member B1
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	AKR1B1 siRNA (Human) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Molecular Weight	35,853 Da
OMIM	103880
3D Structure	ModBase 3D Structure for P15121
Negative Control	siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection.
Quality Control	Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.
Directions for Use	We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well).
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of human AKR1B1 gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo.
Applications Tested/Suitable for AKR1B1 sirna	RNA Interference (RNAi)
Related Product Information for AKR1B1 sirna	MBS8215848 is an siRNA targeting AKR1B1. Also known as AKR1B1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit AKR1B1 expression using RNA interference
Other Notes	Small volumes of AKR1B1 sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for AKR1B1. It may not necessarily be applicable to this product.

NCBI GI #	4502049
NCBI GeneID	231
NCBI Accession #	NP_001619.1
UniProt Primary Accession #	P15121
UniProt Secondary Accession #	Q5U031; Q6FGA4; Q6ICP2; Q9BS21; Q9UCI9; B2R8N3
UniProt Related Accession #	P15121
GenBank Nucleotide #	NM_001628.2
NCBI Official Full Name	aldose reductase
NCBI Official Synonym Full Names	aldo-keto reductase family 1, member B1 (aldose reductase)
NCBI Official Symbol	AKR1B1
NCBI Official Synonym Symbols	AR; ADR; ALR2; ALDR1
UniProt Protein Name	Aldose reductase
UniProt Synonym Protein Names	Aldehyde reductase; Aldo-keto reductase family 1 member B1
Protein Family	Aldose reductase
UniProt Gene Name	AKR1B1
UniProt Synonym Gene Names	ALDR1; AR
UniProt Entry Name	ALDR_HUMAN
NCBI Protein Information	aldose reductase
NCBI Summary for AKR1B1	This gene encodes a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This member catalyzes the reduction of a number of aldehydes, including the aldehyde form of glucose, and is thereby implicated in the development of diabetic complications by catalyzing the reduction of glucose to sorbitol. Multiple pseudogenes have been identified for this gene. The nomenclature system used by the HUGO Gene Nomenclature Committee to define human aldo-keto reductase family members is known to differ from that used by the Mouse Genome Informatics database. [provided by RefSeq, Feb 2009]
UniProt Comments for AKR1B1	AKR1B1: Catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols with a broad range of catalytic efficiencies. Belongs to the aldo/keto reductase family. Protein type: Carbohydrate Metabolism - pentose and glucuronate interconversions; Lipid Metabolism - glycerolipid; EC 1.1.1.21; Oxidoreductase; Carbohydrate Metabolism - fructose and mannose; Carbohydrate Metabolism - pyruvate; Carbohydrate Metabolism - galactose Chromosomal Location of Human Ortholog: 7q35 Cellular Component: nucleoplasm; extracellular space; cytoplasm; cytosol Molecular Function: glyceraldehyde oxidoreductase activity; electron carrier activity; aldo-keto reductase activity; aldehyde reductase activity Biological Process: steroid metabolic process; carbohydrate metabolic process; response to stress; C21-steroid hormone biosynthetic process
Research Articles on AKR1B1	**1.** Higher expression of PLA2G2A, PTGS2, AKR1B1, AKR1C3 and ABCC4 was seen in 22-B endometriosis cells.
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